NEMATOLOGY.—*A new nematode,* Rotylenchus melancholicus, *n. sp., found associated with grass roots, and its sexual dimorphism.* Luiz Gonzaga E. Lordello, Escola Superior de Agricultura "Luiz de Queiroz," Universidade de São Paulo, Piracicaba, Brazil. (Communicated by G. Steiner.)

A new species of the genus *Rotylenchus* Filipjev, 1934, was obtained among several hundred other nemas from soil sample submitted for examination and collected at the Escola Superior de Agricultura "Luiz de Queiroz" of the University of São Paulo, Piracicaba, Brazil. This species is of particular interest because of its outspoken sexual dimorphism.

Rotylenchus melancholicus, n. sp.

Male.—Body slightly tapering to anterior extremity and more sharply posteriorly to an elongate and ventrally arcuated tail. Cuticle weakly transversely annulated; lateral fields made up of four incisures extending from the level of the stylet to the tail, being 3.3μ wide at the middle of the body. Head cupolate and practically continuous with neck contour, bearing extremely faint annules. Cephalic and cervical papillae and amphids not seen. Stylet weak and without basal knobs; oesophageal glands well defined, their posterior limit lying at 108μ from the head. Intestinal cells filled with dark and granulated bodies. Testis one, spicules ventrally arcuated and slightly cephalated; gubernaculum curved, well defined. As far as seen, the bursa is represented only by a faint membrane, which does not comprise all the tail. Therefore, the bursa is vestigial and really in process of disappearence. Phasmids very pronounced and located on the middle of the tail or a little in front. Excretory pore located as in the female.

Female.—Body forming a more or less open spiral, slightly tapering at extremities. Cuticle strongly annulated; annules convex. Lateral fields made up of three more or less undulated incisures extending from the region of the stylet to a little below the middle bulb of the esophagus. At that point, the central incisure bifurcates and the fields continue to tail terminus with four equidistant incisures. At terminus, the two external incisures join, as illustrated; location of the union of the two middle incisures not determined. At level of vulva, the lateral fields are 4.3–5.0μ wide. Head cupolate, bearing four post labial annules, continuous with neck contour. Stylet quite strong, very slightly curved, with somewhat compressed knobs. Vestibulum wall thickened, providing well defined guiding tube for stylet and base for attachment of muscles that move the stylet. Tissues surrounding the oesophageal canal with a slight constriction a little in front of the fusion with middle bulb. This bulb is elongate and small, being 9–10μ long and 6–8μ wide. Outlet of dorsal oesophageal gland very obscure, its exact location not made out. Details of junction of oesophagus with intestine also difficult to see. Dorsal gland well developed, overlapping intestine. Its posterior end lies at about 103μ from head end. Intestine opaque; intestinal cells filled with granulated substance. Ovaries two, outstretched, equally developed, each bearing a well defined and spherical receptaculum seminis, usually filled with spermatozoa. Vagina extending almost half way across body. No eggs seen in uterus; oocytes forming a single line, except at the end portion, where a double line is seen. The reproductive apparatus of female of *R. melancholicus* has about the same organization as that figured by Goodey (1940) for *R. erythrinae* (Zimmermann, 1904) Goodey, 1951. Tail ventrally arcuated, comprising from 9 to 10 annules, with a pointed and not annulated terminus. Phasmids located at level of anus or in front.

Measurements.—Male: total length = 422.0–471.5μ; width = 13.3–15.0 μ; stylet = 10.0μ; tail = 25.0–28.0μ; spicules = 18.3–20.0μ; gubernaculum = 8.3μ; a = 31.7; b = ?; c = 16.7–16.8. Female: total length =514.6–533.0 μ; width = 18.3–21.6μ; stylet = 23.3–25.0μ; tail = 21.6μ; a = 24.6–28.1; b_1 = 7.5–7.6; c = 23.8–24.6; V = 61.6–62.3 percent.

Diagnosis.—The long and deeply ventrally arcuated tail of the male, with only a rudimentary bursa, separates *R. melancholicus* n. sp. from all the other known species. The female has similarities with that of *R. erythrinae* (Zimmermann, 1904) Goodey, 1951, and of *Helicotylenchus nannus* Steiner, 1945.

The separation of the female from *R. erythrinae* can be made by the total length (*R. melancholicus* is a smaller species, 514–533μ: 610–920μ) and by the longer tail (c = 41–64: c = 23.8–24.6); actually, those differences could be considered

insufficient if the male tails were not so diverse. In addition, *R. erythrinae* male has a normal stylet while in *R. melancholicus* this organ is somewhat degenerated. From *H. nannus*, the female of *R. melancholicus* differs by the presence of a receptaculum seminis in the two branches of the amphidelphic sexual apparatus, and by its longer tail (c = 37–41: c = 23.8–24.6).

Type locality.—Grounds of the Escola Superior de Agricultura "Luiz de Queiroz," Piracicaba, State of São Paulo, Brazil, living possibly as parasites of the roots of grasses not identified.

Sexual dimorphism.—The general structure appears to be the only common character of the two sexes. Since the individuals were collected together on the same day and they were the only tylenchids present among hundreds of other nemas, the writer considers them as of the same species.

The male has a longer tail and is smaller, and more slender than the female. The most interesting feature, however, is the degenerated stylet, which in the female is quite strong and possesses very well developed knobs. The visible guiding

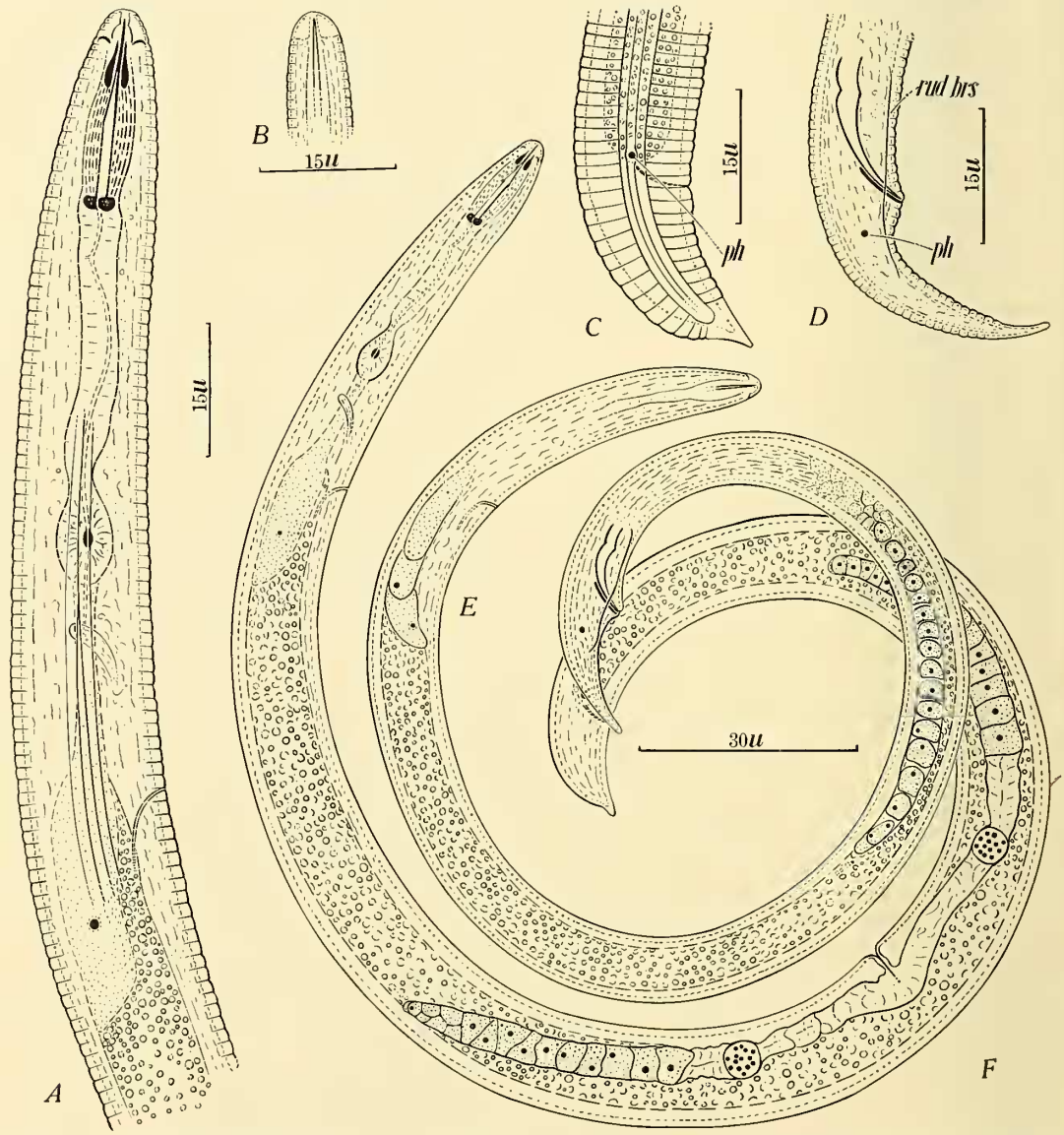

FIG. 1.—*Rotylenchus melancholicus* n. sp.: *A*, esophagus of female; *B*, head of male; *C*, tail end of female (*ph*, phasmid); *D*, tail end of male (*rud brs*, rudimentary bursa; *ph*, phasmid); *E*, male; *F*, female.

case of the female stylet could not be seen in the male, and it is quite possible that it is not present; the protrudor muscles are also much less developed in the latter.

The oesophagus of the male, being very obscure, could not be studied in all the desired details. According to the writer's opinion, the reduced stylet does not mean that the males do not feed during the adult stage, since in one of the individuals of that sex three normal salivary glands were plainly visible. This supposition that the male does not cease to feed after developing into the adult stage is in opposition to what has been supposed for some other tylenchids (e. g., *Neotylenchus abulbosus* Steiner, 1931) (Steiner and Buhrer, 1932).

R. melancholicus males are undoubtly functional, not only for having normal spicules and testis, but also for the presence of abundant spermatozoa filling the female receptaculum seminis.

Another interesting feature of sexual dimorphism may be found in the location of the phasmids which, in the male, are on the tail but, in the female, at level with the anus or a little in front.

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HERPETOLOGY.—Desmognathus planiceps, *a new salamander from Virginia.* Walter B. Newman, Hyattsville, Md. (Communicated by Doris M. Cochran.)

During the course of herpetological investigations along the southern portion of the Blue Ridge in Virginia a number of very interesting specimens and records were obtained. Among the salamanders collected was a series of 19 *Desmognathus* that possessed such unique characteristics and coloration that I feel that they are justifiably nameworthy and therefore propose that this new salamander be called:

Desmognathus planiceps, n. sp.

Diagnosis.—A large, heavy-bodied *Desmognathus* with the following characteristics: broad, flattened head; spatulate and strongly depressed snout; enlarged and recurved premaxillary teeth in adult males; conspicuous, and normally straight-edged, dorsal band sharply margined with blackish; chest and anterior two-thirds of belly immaculate; chin, throat, and posterior third of belly lightly spotted with brownish-tan.

Holotype.—An adult male collected by Richard L. Hoffman and Walter B. Newman on May 12, 1951, from a portion of the stream (approximate elevation 2800 feet) dropping down into the gorge below the Dan River Dam near Meadows of Dan, Patrick County, Va. This specimen is at present in the personal collection of the author (WBN 1316), but it will eventually be deposited in the U. S. National Museum.

Paratypes.—One topotype, WBN 1318, in addition to the holotype, was collected from the Dan River gorge on May 12, 1951, by Richard L. Hoffman and Walter B Newman. Four topotypes, WBN 1322-4, were collected from this same site by Richard L. Hoffman, Walter B. Newman, and Jaine P. Newman on May 30, 1951.

Five paratypes, WBN 1326-9, 1331, were collected in a mountain stream (approximate elevation 2,400 feet) along Route 8, 5.5 miles northwest of Woolwine, Patrick County, Va., by Richard L. Hoffman, Walter B. Newman, and Jaine P. Newman on May 30, 1951. Eight additional paratypes, WBN 1332-9, were collected from the same locality on August 27, 1951, by Richard L. Hoffman and Walter B. Newman.

Description of holotype.—Snout spatulate; sides of head from anterior corner of eye to angle of jaw nearly parallel; cheeks noticeably swollen; head strongly depressed, sloping abruptly from the eyes to tip of snout; a short vertical groove from angle of jaw to a sinuous groove extending from the eye to the vertical extension of the gular